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- (57) Claim

1. A support bracket and a fitting adapted to be supported by said support bracket on an adjacent structure, said support bracket comprising, a main body having apertures therethrough for receiving means to attach the main body to the adjacent structure, at least one pair of support means on the side of said main body opposite from the adjacent structure to which, in use, it will be attached, and with said support means facing each other, an elongate fastening pin extending across said main body and through axially aligned apertures through the respective support means, a peripheral wall of said fitting being adapted to engage said main body and surround said support means whereby a grub screw or the like inserted through a portion of said wall and aligned with an end of said fastening pin in one of said support means will axially move said pin and engage with said one support means whilst causing the other end of said fastening pin to move into engagement within a recess provided on the inside surface of the opposing wall portion adjacent the other said support means, with the pin and grub screw combination thereby attaching said fitting to said support bracket.

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Complete Specification for the invention entitled:

SUPPORT BRACKET

The following statement is a full description of this invention including the best method of performing it known to me:-

The invention has been particularly developed for the purposes of supporting pillars or columns for towel rails, towel rings, toilet roll holders and the like, on a wall, although the invention is applicable to supporting other types of fittings.

One currently used form of supporting bracket involves the use of a shallow cup-shaped member having apertures through which fastening screws can be inserted to

attach the member to a wall. The peripheral edge of the fitting has a series of spaced apart grooves formed on the inner surface of the wall of the fitting. The fitting is then held in place on the supporting bracket by a single grub screw passing through a hole in the wall of the fitting and engaging the supporting bracket to hold the fitting on the bracket.

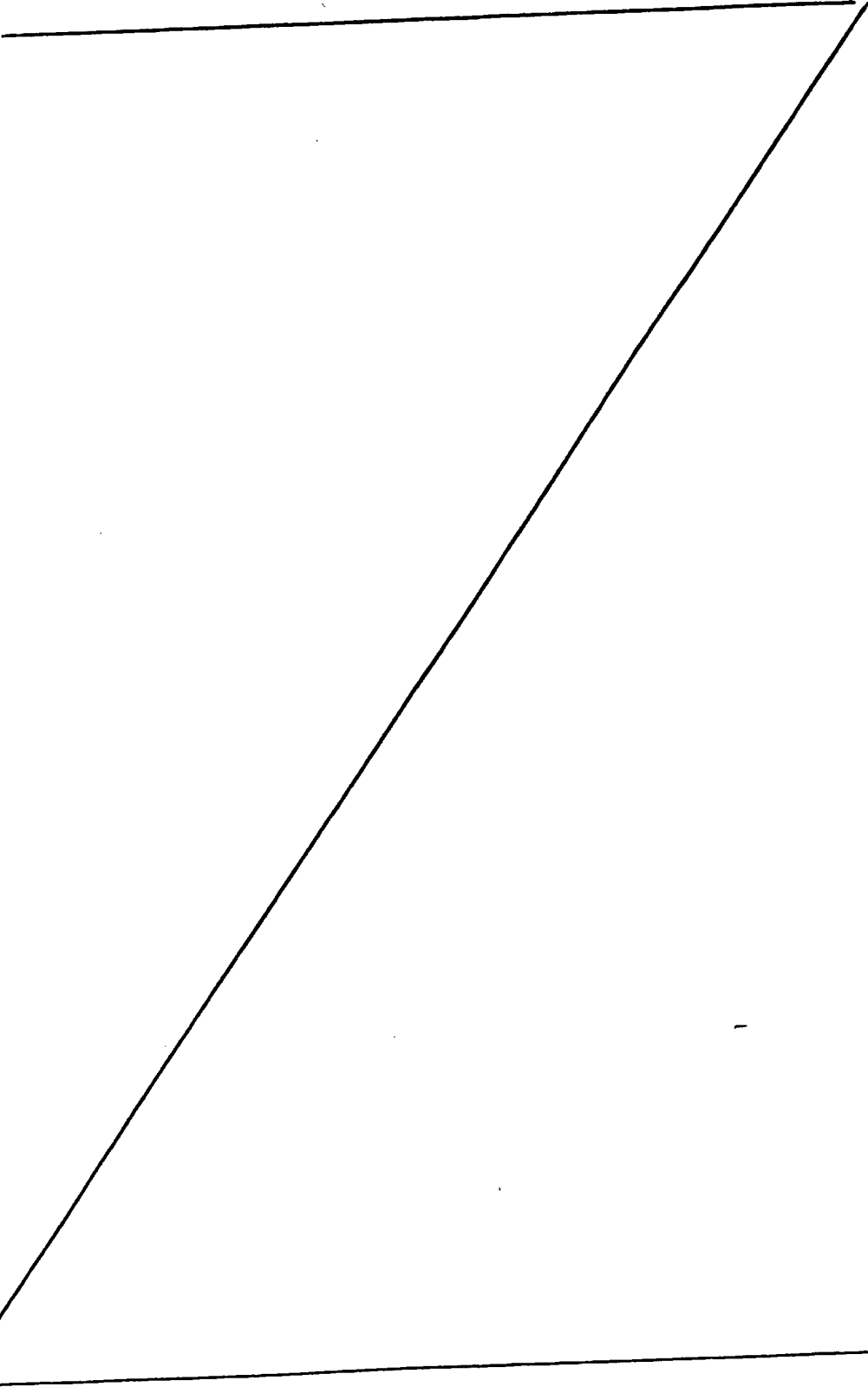
It is an object of the present invention to provide a support member whereby it will more positively and securely engage the associated fitting (e.g. a support pillar or column for a towel rail or the like).

The invention therefore envisages a support bracket and a fitting adapted to be supported by said support on an adjacent structure, said support bracket comprising, a main body having apertures therethrough for receiving means to attach the main body to the adjacent structure, at least one pair of support means on the side of said main body opposite from the adjacent structure to which, in use, it will be attached, and with said support means facing each other, an elongate fastening pin extending across said main body and through axially aligned apertures through the respective support means whereby a grub screw or the like inserted through a portion of said wall and aligned with an end of said fastening pin in one of said support means will axially move said pin and engage with said one support means whilst causing the other end of said fastening pin to move into engagement within a recess provided on the inside surface of the opposing wall portion adjacent the other said support means, with the pin and grub screw combination thereby attaching said fitting to said support bracket.

In one embodiment of the invention, a single fastening pin is provided, whilst in an alternative embodiment the fastening pin cooperates with a pair of



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additional pins extending at right angles thereto to pass through additional support means on the main body and which, 

...



during axial movement of said fastening pin, are forced away from the axis of said fastening pin whereby their ends remote from the fastening pin will, in use, engage additional recesses provided on the inside surface of opposing wall portions of said fitting and in alignment with said additional pins.

Two preferred embodiments of the invention will now be described with reference to the accompanying drawings, in which:

Figure 1 is an exploded view of a first preferred embodiment of the support bracket in combination with a support pillar or column of an associated fitting, in this case a towel ring, and which is to be attached to an adjacent wall,

Figure 2 is a partly sectioned view of the support pillar or column attached to the support bracket,

Figure 3 is a cross-sectional view taken along line 3-3 of Figure 2,

Figure 4 is a perspective view of a support bracket in accordance with a second embodiment of the invention, and

Figure 5 is a plan view of the bracket of Figure 4.

Turning to Figures 1 to 3 of the drawings, the support bracket 10 of this first embodiment of the invention is adapted to connect a fitting in the form of a support pillar or column 11 of a towel ring (part of which ring is designated as 12) to an adjacent wall 13. The bracket 10 consists of a substantially annular ring forming a main body 14 and having radially inwardly directed protrusions 15 through which apertures 16 are provided to receive fastening screws 17 whereby to attach the bracket to the adjacent wall 13. On the side opposite the wall 13, the main body carries a pair of diametrically opposed lugs 18 upstanding from the main body and having a pair of axially aligned holes 19 therethrough which receive an elongate fastening pin 23 extending diametrically of the main body and in sliding engagement within the holes 19.

The support pillar or column 11 has a hollow bell shaped configuration with a peripheral wall 20 the outer edge of which is adapted to overlies the main body 14 of the support bracket and surround the diametrically opposed lugs 18 as shown in Figure 2. Just within the outer edge of the wall 20 are four circumferentially equally spaced apart formations 21 three of which define a groove 22. Two diametrically opposed formations 21 are adapted, in use, to align with the ends of the fastening pin 23 of the support bracket, whereby when a grub screw 24 is inserted through a threaded aperture 25 in the wall of the support pillar or column at the position of one of the formations 21 it will engage one end of the fastening pin in the hole 19 of the adjacent lug 18, and by virtue of the grub screw being partially received within both of the aperture 25 and the hole 19 it will attach the wall of the pillar or column 11 at that point. In addition, the axial movement of the fastening pin produced by insertion of the grub screw 24 will cause the opposite end of the fastening pin to move radially outwardly of the diametrically opposed lug 18 and into engagement within the groove 22 of the formation 21 adjacent thereto on the inside wall of the towel ring pillar or column to also attach the pillar or column to the support bracket at that point.

Turning to Figures 4 and 5 of the drawings, the attachment of the towel ring pillar or column to the support bracket at two diametrically opposed points is essentially the same as that of Figures 1 to 3, and where appropriate the same reference numerals have been used. However, in this embodiment the configuration of the support bracket 10 is modified to provide a further pair of lugs 18' with aligned holes 19' the axis of which are at right angles to the holes 19 in the other lugs 18, and through which holes a pair of additional fastenings pins 23', one on either side of the main fastening pin 23, extend. The main fastening pin 23 is modified to provide a frusto-conical formation 30

and the ends of the additional pins 23' bear against the frusto-conical formation 30 which is tapered so as, during axial movement of the fastening pin under action of the grub screw, to force the additional pins 23' radially outwardly so that their opposite ends engage within the grooves 22 provided in the other pair of diametrically opposed formations 21 on the inside wall of the pillar or column 11.

As shown in the drawings the outer side of each of the grooves 22 is tapered whereby the action of the ends of the associated pin 23 in the embodiment of Figures 1, 2 and 3, and the combination of pins 23 and 23' in the embodiment of Figures 4 and 5, engaging the grooves will force the pillar tightly against the associated wall 13.



THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A support bracket and a fitting adapted to be supported by said support bracket on an adjacent structure, said support bracket comprising, a main body having apertures therethrough for receiving means to attach the main body to the adjacent structure, at least one pair of support means on the side of said main body opposite from the adjacent structure to which, in use, it will be attached, and with said support means facing each other, an elongate fastening pin extending across said main body and through axially aligned apertures through the respective support means, a peripheral wall of said fitting being adapted to engage said main body and surround said support means whereby a grub screw or the like inserted through a portion of said wall and aligned with an end of said fastening pin in one of said support means will axially move said pin and engage with said one support means whilst causing the other end of said fastening pin to move into engagement within a recess provided on the inside surface of the opposing wall portion adjacent the other said support means, with the pin and grub screw combination thereby attaching said fitting to said support bracket.
2. A support bracket and a fitting as claimed in claim 1, wherein a single elongate fastening pin is provided.
3. A support bracket and a fitting as claimed in claim 1, wherein the fastening pin co-operates with a pair of additional pins extending at right angles thereto to pass through additional support means on the main body and which, during axial movement of said fastening pin, are forced away from the axis of said fastening pin whereby their ends remote from the fastening pin will engage additional recesses provided on the inside surface of



opposing wall portions of said fitting and in alignment with said additional pins.

4. A support bracket and a fitting as claimed in claim 3, wherein the additional pins are forced away from the fastening pin during the axial movement thereof by means of frusto-conical formation on the fastening pin providing tapered surfaces against which the ends of the additional pins bear.

5. A support bracket and a fitting substantially as hereinbefore described with reference to figures 1 to 3, or figures 4 and 5, of the accompanying drawings.

DATED THIS 30TH DAY OF OCTOBER 1992

15 DORF INDUSTRIES PTY LTD  
By Its Patent Attorneys

GRIFFITH HACK & CO.,  
20 Fellows Institute of Patent Attorneys of Australia

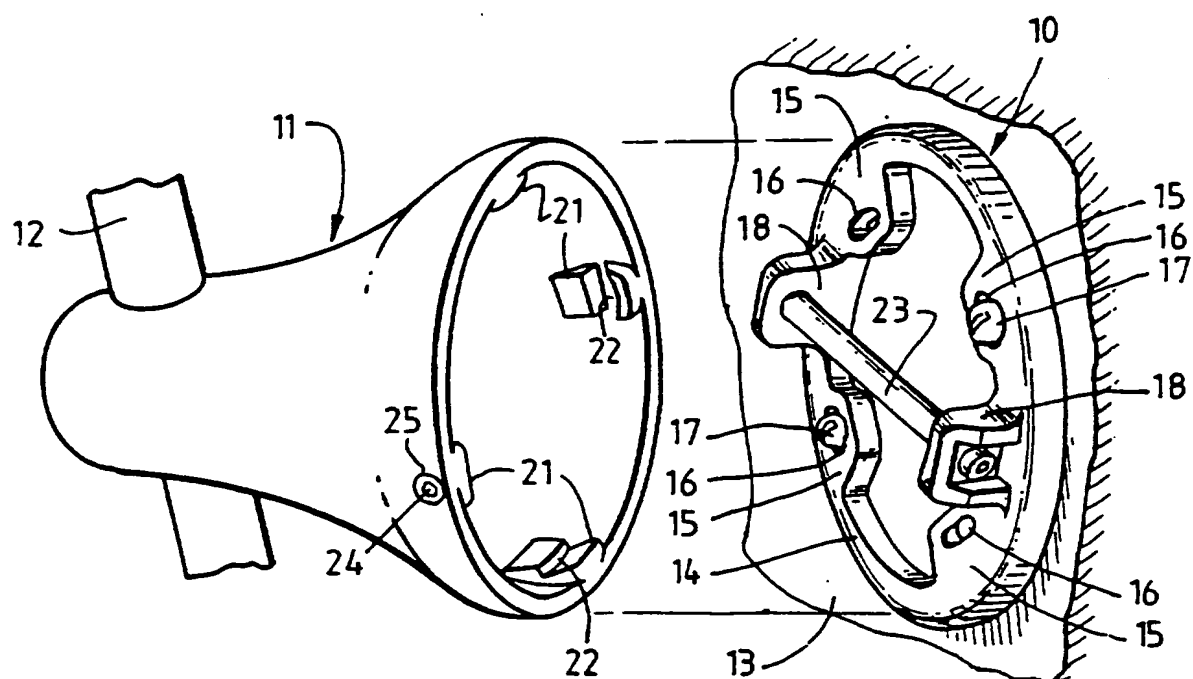


FIG. 1.

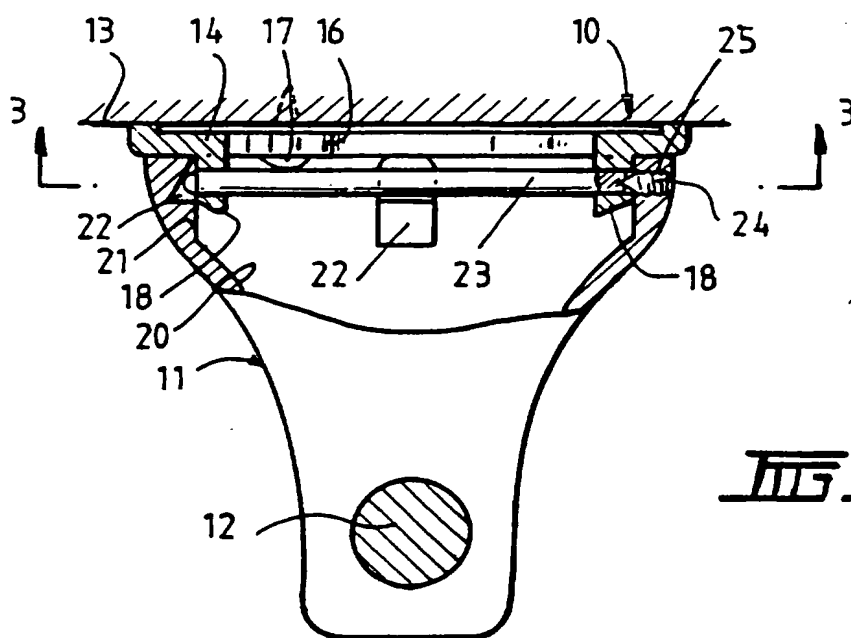
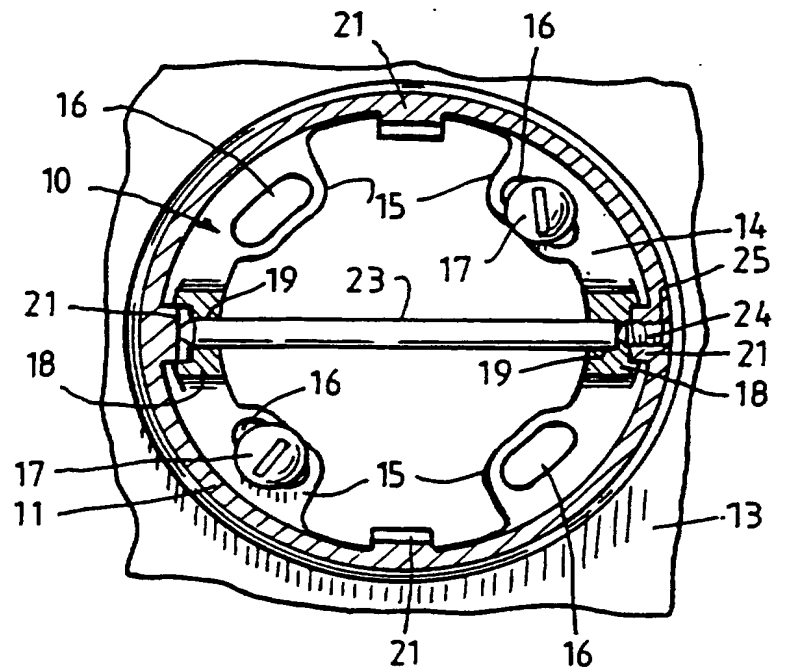
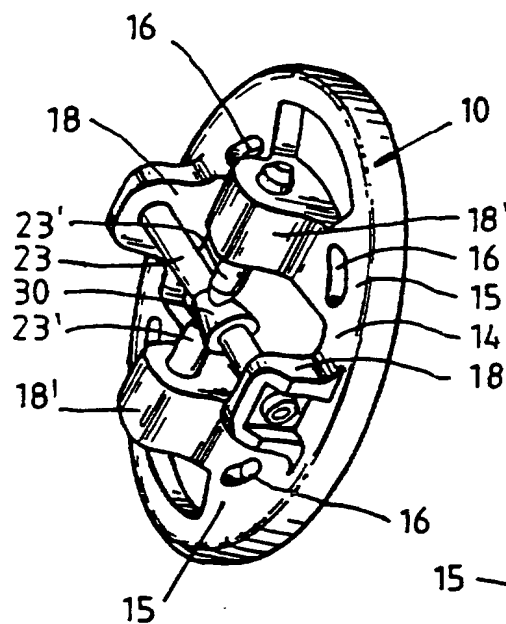


FIG. 2.

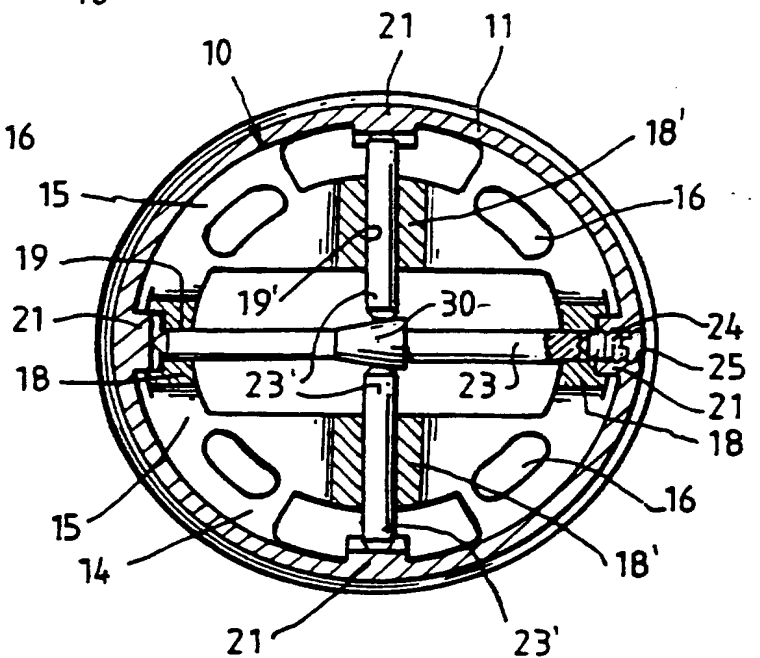
**FIG. 3.**



**FIG. 4.**



**FIG. 5.**



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